

Melvin Butte Forest Management Project

Silviculture Treatment Specifications and Implementation Guidelines

Stewardship Imp Units 7

Fuels Imp # TBD

Updated July 15, 2015- to excluded blackened portion in map below

Management Allocations:

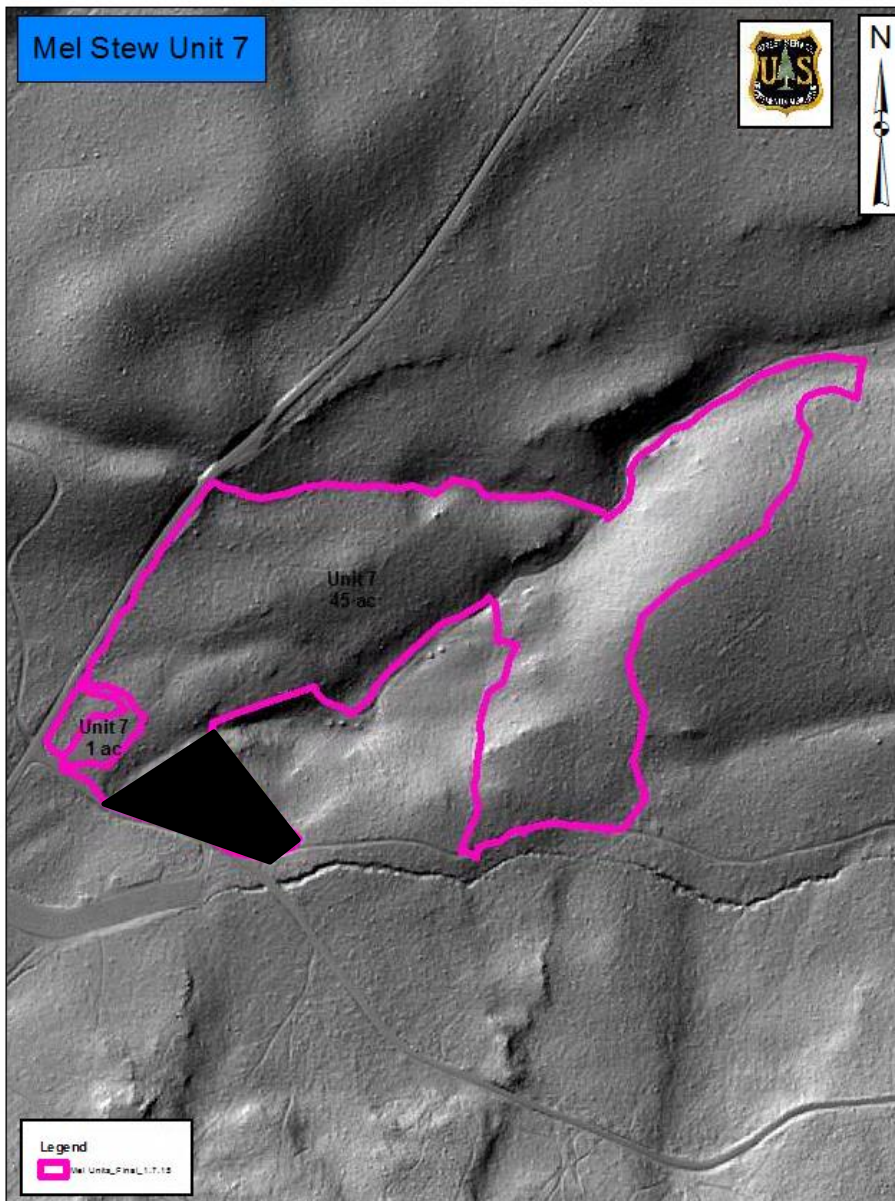
LRMP: Front Country Seen/Unseen MA 18

NWFP: Matrix

EA Unit 39

EA Treatment Name: Thinning (Un-evenaged)

Secondary treatments: Underburn (prescribed), pile burning, mastication, pruning



Site Description:

Unit	Acres	Aspect	Slope	Site Index (PIPO)	Plant Assoc. (Volland 1982)
7	42	NE	0-5	91	Mixed conifer –dry CWS115

Structure:

The structure of the stands in the units are in a multi-stratum phase. Understory shrub component is low as the crown has closed and reduced the manzanita.

Dwarf Mistletoe

The units contain low to moderate levels of ponderosa pine dwarf mistletoe. Most often the infections are in the bottom ½ to 1/3rd of the crown. Mistletoe infections may be higher in those trees left from previous stand entry or where infections have spread from these to higher in the crowns of planted trees.

Recent past water scouring

The Pole Creek Fire of 2012 reduced vegetation up slope from this location and as such the minor draw that runs up the center of the unit has seen mass debris flow (photo below).

Past management-

The stands had selective overstory removal. The past selective removal removed 20-60ft² basal area per acre (BA/acre) of ponderosa pine. Fire suppression of natural and/or human ignitions has occurred from early in the 20th century. Ingrowth has occurred overtime due in large part to fire suppression policy. This area has also experienced high personal fire wood collection and as such numerous stumps (primarily lodgepole) and down wood is evident.

Existing condition-

171 BA/ac containing all size/ age classes of ponderosa pine as well as lodgepole (8”dbh average) and white fir all size classes (but very few “old” >150 years). See table below for size class distribution (all trees lumped).

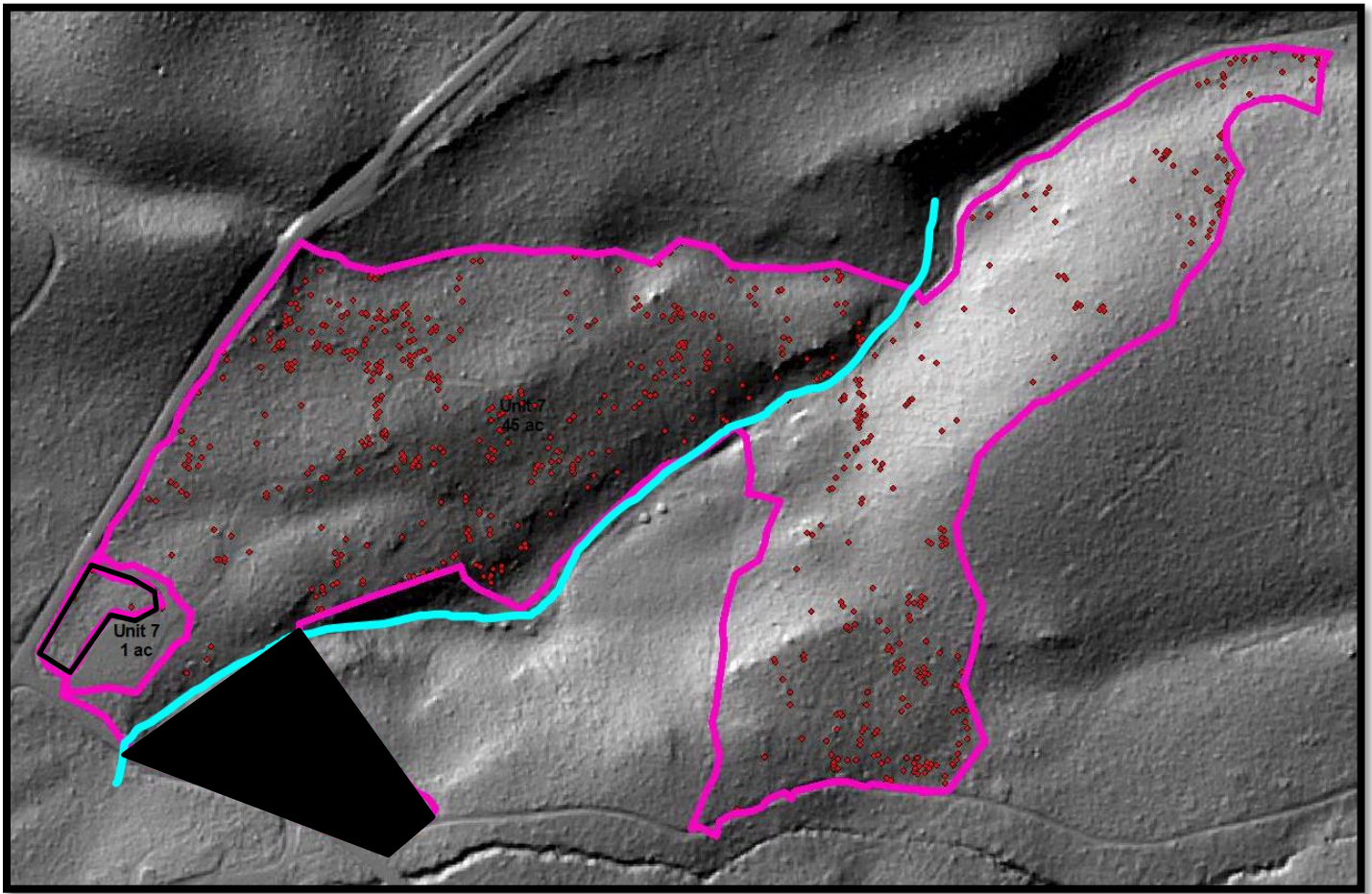


Figure 1. Unit 7 indicated 21+''dbh trees. Blue line indicates swale and eventual channel. Black area is excluded from this prescription and outlined area is covered under a small tree thin (see west of overflow parking lot below).

Table 1-Stand statistics derived from Lidar determined tree points.

Weighted DBH	BA/acre 0-4.9''	BA/acre 5-8.9''	BA/acre 9-20.9''	BA/acre 21''+	BA/total	TPA 0-4.9''	TPA 5-8.9''	TPA 9-20.9''	TPA 21''+
9.4	9	28	85	49	171	156	107	75	15





Desired Future Condition-

Stands with large old growth ponderosa pine distributed into clumps and individuals among a minor component of lodgepole and to a lesser degree white fir. Move units to old forest single stratum (i.e. dominated by a single overstory of old growth ponderosa pine).

Goals of the mark

- Retain all old growth trees and thin under- and midstory to favor their long-term persistence
- Create, retain or induce trees in clumps or in a random distribution of stems.
- Increase mean stem diameter within the stand by thinning from below
- Where present, reduce dwarf mistletoe abundance and potential spread within the unit. Remove where possible else isolate and confine dwarf mistletoe in the unit by spacing leave trees.

Selected Silvicultural Treatment: Individual tree selection from below for stand cleaning to favor old growth ponderosa pine development/ accentuation

Contractual Timber Designation Method: ITM with take mark in blue and leave in orange

Leave tree preference (in order)

Ponderosa pine, lodgepole pine, white fir, western juniper

Diameter limitations

21" dbh diameter cap is restricted to ponderosa pine and lodgepole pine. White fir does not have a diameter limit, but any white fir that indicates an old growth appearance (high lichen presence, decadent crown, deep furrowed bark) will be retained. All old growth ponderosa pine of any size will be retained (Van Pelt rating 5 or higher).

Saw-log Marking –

Contractually Summarized- Leave all ponderosa pine except those marked in blue and cut all lodgepole and white fir except those marked in orange

Commercial Thin

Commercial thinning should strive for the following densities and distribution:

- 1) No marking of ponderosa pine trees >21" dbh or those that indicate old growth. Use Van Pelt guide for old growth description and here is implied as a tree rating 5 or higher.
- 2) No marking of western white pine or any other 5 needle pine (if present)- consider these "ghost trees".
- 3) Always choose cutting white fir and lodgepole over ponderosa pine (except when heavily infested ponderosa pine with mistletoe DMR >3).
 - a. Leave paint will be used on lodgepole and white fir in low ponderosa pine areas to meet the stocking ranges (40-120 BA/ac)
- 4) To prevent off road travel, maintain 120 sqft basal area within "parking lot island", 1 chain distance east and north of small parking area and along 1620 road corridor. Utilize any configuration of stems and species type to prevent off road travel. Blend this marking so as to prevent visual edge effect with remainder of the unit.
- 5) Leave tree marking will be ½ bands within a minimum of one chain distance from the 16rd. Expand this distance where necessary to account for post-harvest view shed.
- 6) Mark stand to 80 basal area target, but will range from 40-120 BA/acre to account for above and below considerations.
 - a. Utilize ponderosa pine for stocking to these targets whenever possible. Exceptions to this would when ponderosa pine is less than 21"dbh AND has DMR rating 3+; mark to lower ranges when 3a above is true.
 - b. Utilize lodgepole then white fir to meet stocking levels
 - c. When encountering mature ponderosa that may be >21"dbh and has a DMR rating of 3+; reduce the understory around infected trees to an area equal to twice the drip-line of the crown(s).
 - d. Ponderosa pine thinning will be generally from below unless thinning is done to "isolate and confine" mistletoe. Only choose a larger tree over a small one in order to create clumpy structure or reduce any dwarf mistletoe that may be present.
- 7) Maintain a 30ft heavy equipment buffer along the ephemeral channel (calculated here to be a 10ft no thin area when considering reach in potential). Recent survey indicates mass flow from loss of vegetation due to Pole Creek Fire (see EA design measures and photo 3 above).
- 8) Utilize any clumping for ponderosa pine that may be present. This is common throughout the units.
- 9) Utilize north aspects, other microsites and #4 above for areas of higher density areas.
- 10) When choosing whether to leave a mistletoe tree, ensure its infection is NOT in the upper 1/3rd of the crown. Crowns may be pruned in a later step to further reduce spread within the stand.

Non-saw/biomass/ pre-commercial/chip thinning component (trees 5-9"dbh)

The non-saw/ pre-commercial/ biomass utilization prescription is recommended where the small trees to be cut are not saw log sized material. The objective is to reduce inter-tree competition, ladder fuels and mistletoe abundance while promoting horizontal and vertical diversification and future recruitment/replacement.

Selection of Leave Trees 5-9"dbh

Retain all ponderosa pine, 5 needle pines (includes western white pine, and white bark pine) and Douglas-fir in this size class and remove all others.

Selection of leave trees 0-5”dbh

Leave trees of ponderosa pine, in this size class will be at the 10-20 trees per acre range. Species preference will be similar to above, but where ponderosa pine stocking is lacking or has high dwarf mistletoe (DMR >3) will consist of lodgepole and white fir. Select healthy ponderosa pine (mistletoe free, good form) trees that indicate future growth to achieve the desired spacing. If not possible to select trees without mistletoe infection; the most mistletoe free trees shall be selected for leave trees.

Pruning

Leave trees that are left in the units may be pruned to reduce further spread into the stand. Pruning may occur up to 2/3rd of the live crown. Leave trees with more than 75% infestation may be girdled or pruned entirely for snag creation.

Prescribed Fire

These units have already had leave tree designation and thinned to desired silvicultural objectives- as such prescribed fire objectives will be utilized to reduce duff and needle cast and secondarily for snag creation. Inducing high mortality into leave trees is not the objective.

Size Class		Acceptable Mortality (%)
Name	DBH Range	Second Growth Stands/Trees
Seedling/Sapling	<5”	0 – 30
Pole	5” - 8”	0 – 30
Small 1	8” - 15”	0 – 5
Small 2	15” - 21”	0 – 5
Medium/Large	21”+	0 – 2

Preparer: /s/ William Brendecke _Certified Silviculturist_____